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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/624,712	07/25/2000	Jae Heon Park	8003-370	6809

21971 7590 07/01/2003

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EXAMINER
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DUDA, KATHLEEN

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 07/01/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/624,712

Applicant(s)

PARK ET AL.

Examiner

Kathleen Duda

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 4-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 10.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 4-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa (US Patent 5,885,755) in view of Fukuda (EP 0110558) and Gurer (US Patent 6,248,171).

Nakagawa teaches in Figures 2a-2g and column 3, line 55 to column 4, line 52, a developing process. A pattern-irradiated photoresist layer, on a spin chuck, has a washing liquid applied as a pretreatment for development. A film is formed upon which the developer is applied. After the developer has completely replaced the film, more developer is applied followed by a rinse of pure water.

Nakagawa does not teach a multi-port nozzle. This is taught by Fukuda and Gurer.

Fukuda teaches a process of developing whereby a rinse solution is applied after development. It is taught that the substrate can be rotated during development. Figure 2 depicts the nozzle as having several ports

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labeled as 11-14. See page 4, line 29 to page 5, line 27. It is taught that the process leads to uniform distribution of the developer solution and the use of a smaller amount of solution. Fukuda does not specifically teach using the nozzle to apply both solutions although it is implied. Gurer specifically teaches a process of development with the application of both developer and rinsing solution. It is taught that the nozzle which has a plurality of outlets is used to dispense both the developer and rinsing solution (see column 9, lines 37-63).

Therefore, it would have been obvious to one of ordinary skill in the art to have used a multi-port nozzle in a developing process which involves the application of rinse and developer because Fukuda teaches that such a nozzle leads to uniform distribution of material on the substrate and Gurer teaches that it is conventional in the art to dispense both the developer and rinsing solution from the nozzle.

Applicant argues that Fukuda does not teach dispensing both liquids from the nozzle. Gurer has been added to the rejection for this specific teaching.


### ***Conclusion***

3. Any inquiry concerning this communication should be directed to Examiner K. Duda at (703) 308-2292. Official after final FAX

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communications should be sent to (703) 872-9311, all other official FAX communications should be sent to (703) 872-9310.

Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist at (703) 308-0661.

  
Kathleen Duda  
Primary Examiner  
Art Unit 1756